

RIPE



The Internet as a Field of War

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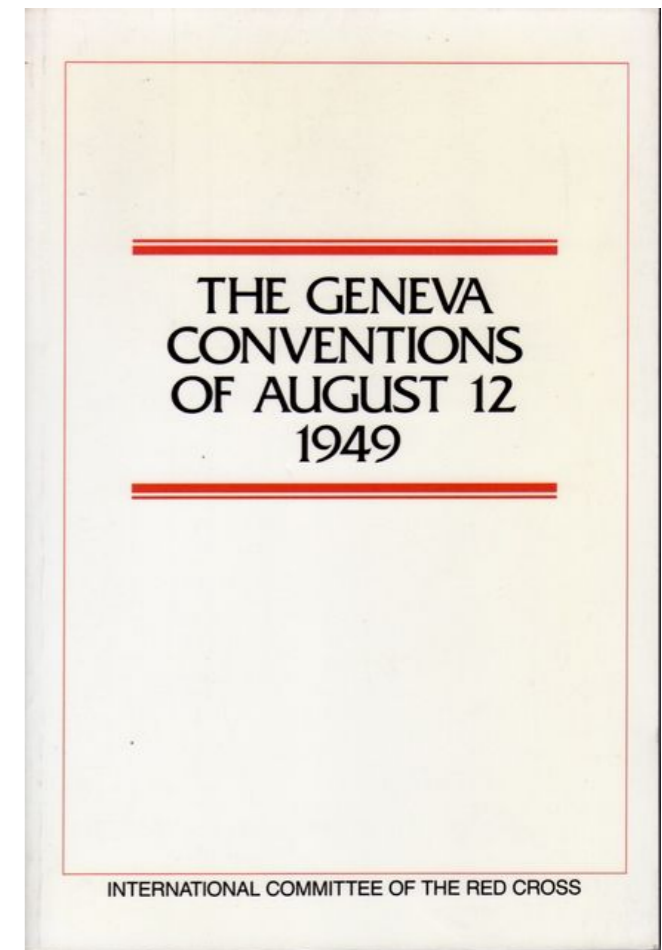
Leiden University, The Netherlands



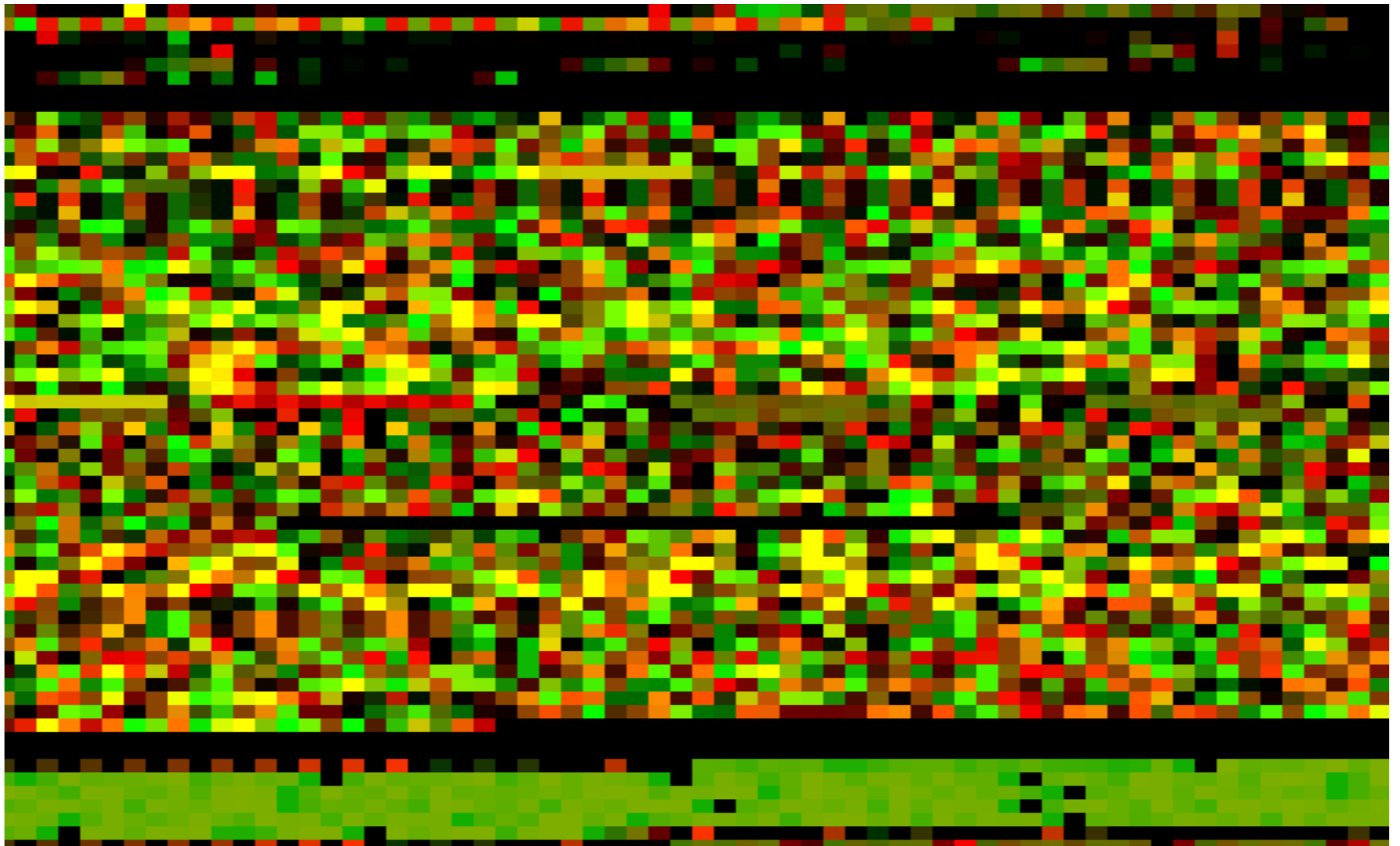
Why?

- Military spending
- Increase in attacks
- Heightened vulnerability
- Increase in number of vigilantes

- International Humanitarian Law is *old*



Stuxnet: first 60th of Stuxnet binary



http://julianoliver.com/output/log_2012-11-12_19-56



International Humanitarian Law (IHL)

1. Applicability
2. Distinction
3. Proportionality
4. Precaution



Issue 1: Applicability of IHL

- International humanitarian law= law of armed conflict
- Governs cyber warfare



<http://www.extremetech.com/extreme/185125-how-to-watch-hacking-and-cyberwarfare-between-the-usa-and-china-in-real-time>



Issue 1: Applicability of IHL

Armed conflict:

- 1) Armed force
 - Non-physical consequences
- 2) International or non-international armed conflict
 - Anonymity
 - Defies national boundaries

Issue 2: Distinction

Key Points:

- Military/civilian objects
- No indiscriminate attacks
- Identification



MSF Hospital in Kunduz, Afghanistan

www.theguardian.com/world/2015/oct/03/kunduz-charity-hospital-bombing-violates-international-law#img-2



Issue 2: Distinction

Problems for Cyber Warfare:

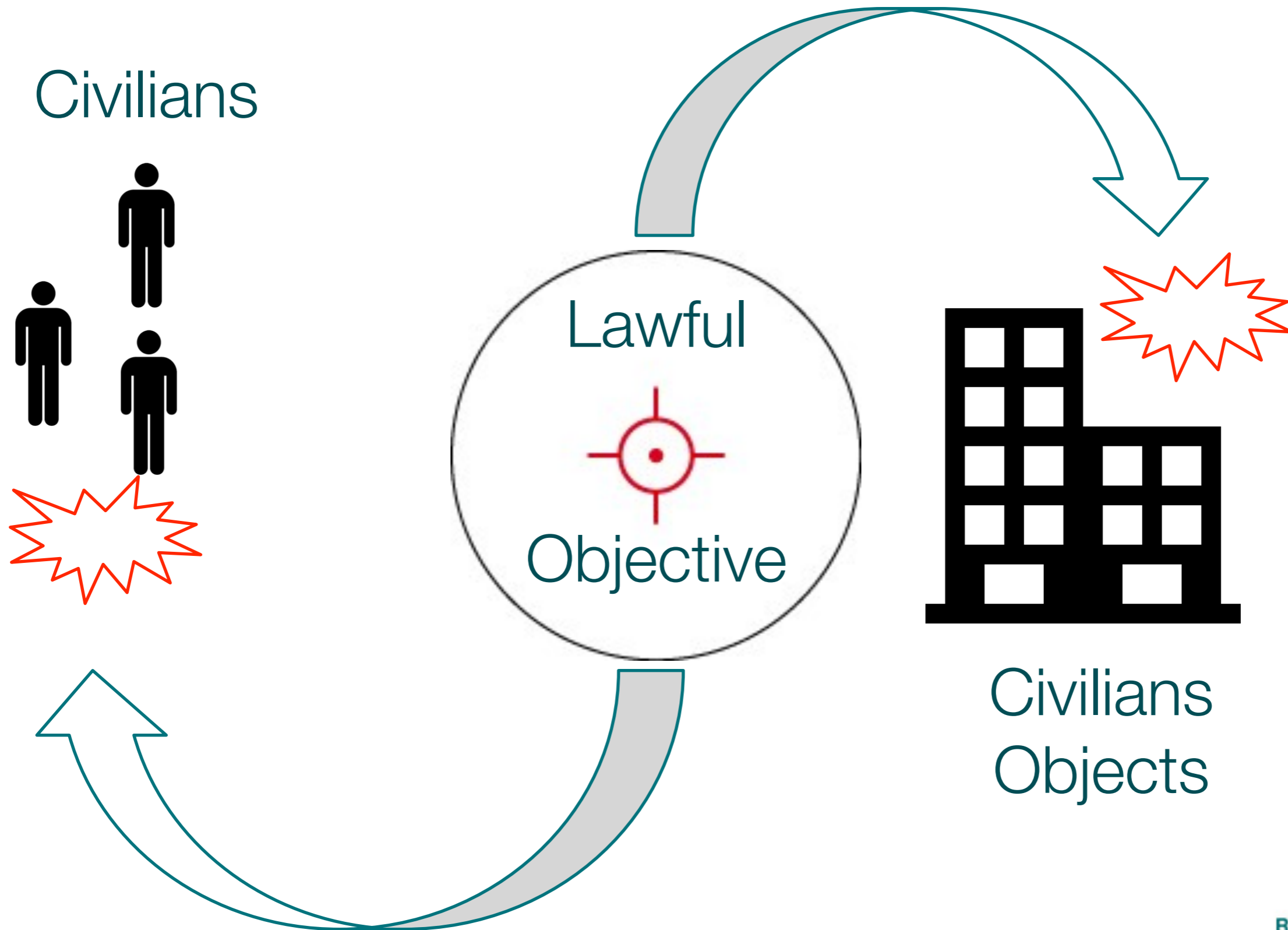
- Internet as “Dual-purpose”
- Viruses and Worms
- Stuxnet – did it distinguish?
- DDoS Attacks
- IP addresses
- Hackers as combatants?



Natanz Nuclear Facility

Hamed Saber <http://www.flickr.com/photos/hamed/237790717>

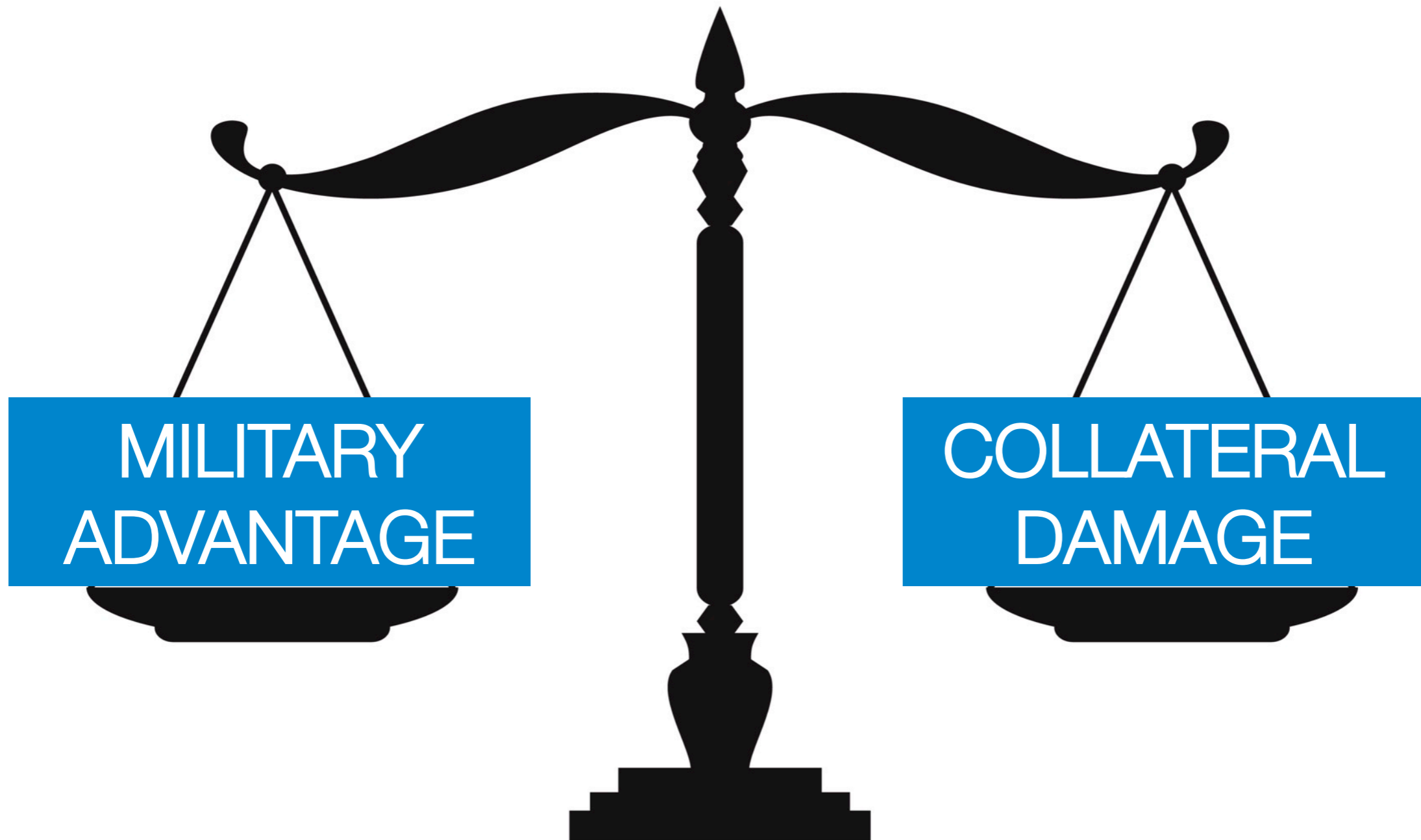
Issue 3: Proportionality



Issue 3: Proportionality

ANTICIPATED

EXPECTED



Issue 3: Proportionality

Challenges Regarding Cyber Warfare:

- Physical Damage VS Loss of Functionality
- Unexpected & Indirect Consequences
 - ➔ Reasonableness
 - ➔ “*A Posteriori Evaluation*”
- Dual-Use Objects
 - ➔ Usability Ratio?

Issue 4: Precaution

Legal Key Points:

- Definition
- Two parts obligation
 - Precaution in attack
 - Precaution against the effects of an attack

Issue 4: Precaution

The “Perfect Weapon”:

- ‘Turn it off’
- Information needed to create a weapon

BUT

- Testing
- Suspend & Cancel the attack
- Segregation & Protection

Suggestions for the future?

- Modernizing the law
- Limiters for worms and viruses
- Internet as a global commons?

A STRANGE GAME.
THE ONLY WINNING MOVE IS
NOT TO PLAY.

Questions?

